# Scenario Runs, Scale Issues, and Tributary Team Integration

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# Scenario Runs

- What are they?
  - Model simulations used to investigate the changes in the ecosystem associated with various management decisions (e.g. simulated reduction to all loads by X% and observe changes)
  - Scenario runs provide insight into the most sensitive pollutant sources that affect WQ
  - They also help explore options for management decisions

# Scenario Runs

- Current Status – preliminary stage
  - MDE is beginning to develop ideas on various possible scenarios

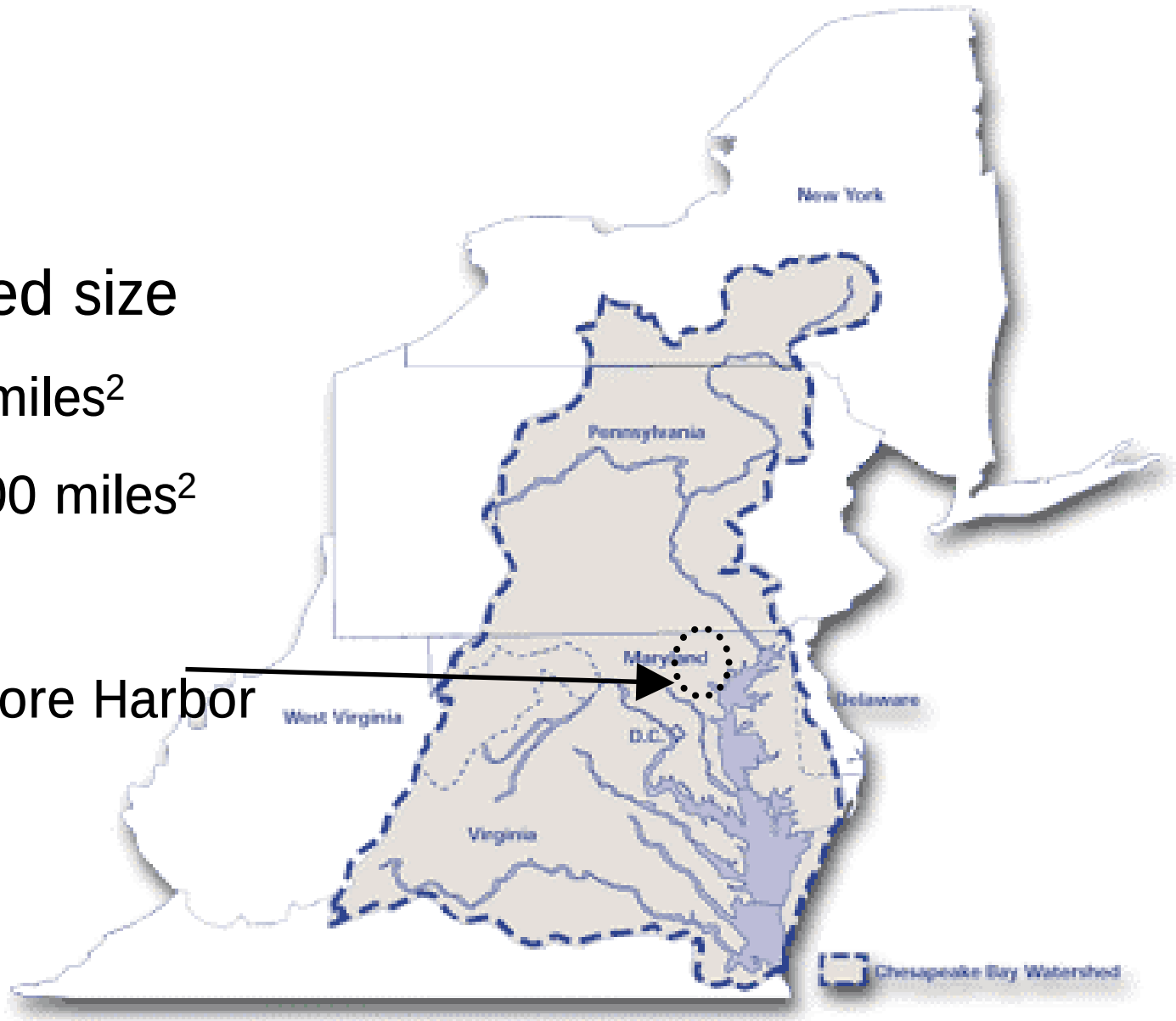
# Scale Issues

# Watershed size

BH - 415 miles$^2$

CB - 64,000 miles$^2$

Baltimore Harbor



# MDE/CBP Models

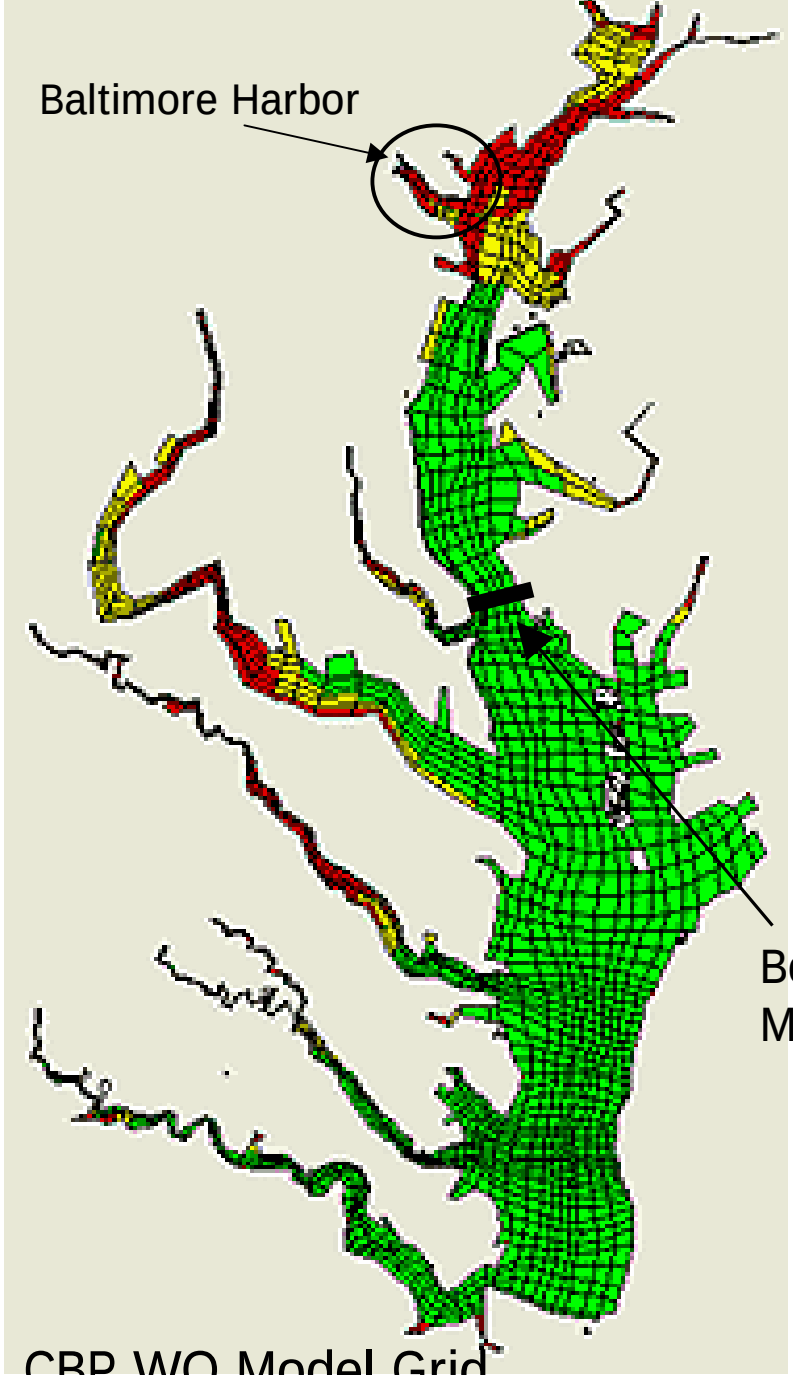
- Chesapeake Bay Program (CBP) and MDE are using the same suite of models to address nutrient impairments
- Watershed Model - HSPF
- Water Quality Model – suite of hydrological and water quality models

# Watershed Model (HSPF) Refinement

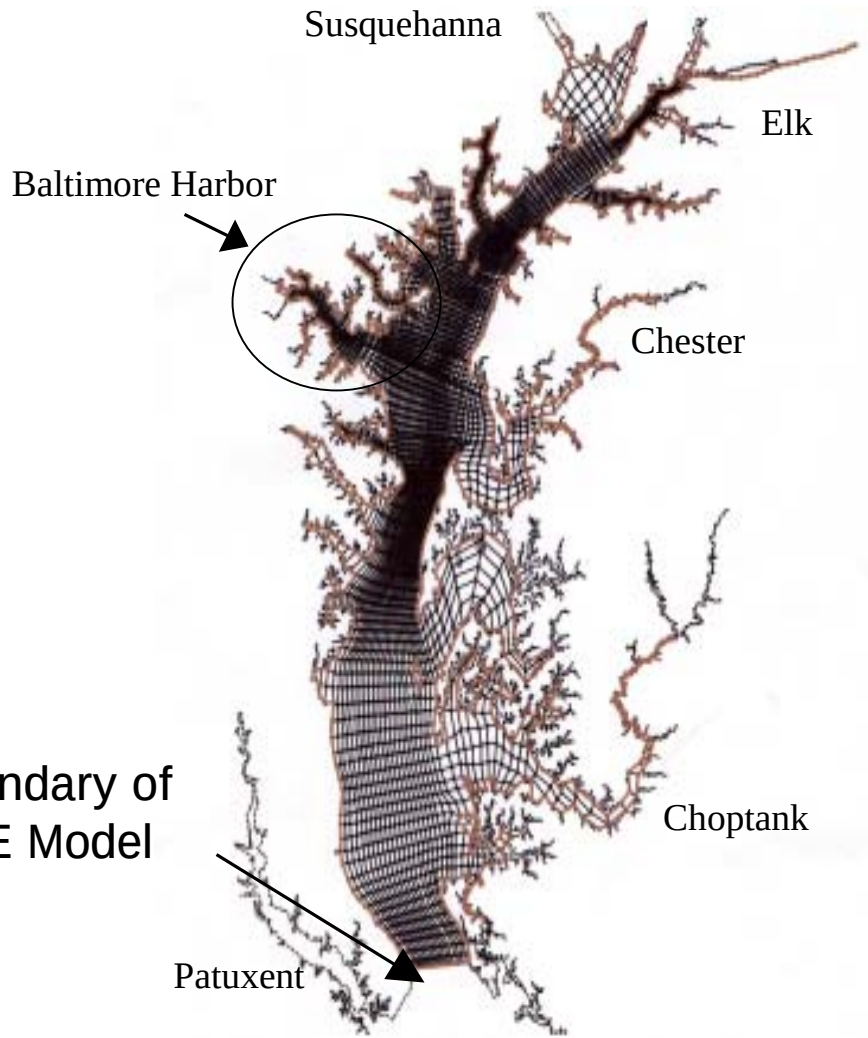
- Watershed Model Refinements
  - Land use
    - MDE – MDP, FSA, Ag Census data
    - CBP – MRLC
  - Segmentation
    - MDE – 32
    - CBP – 4
- Hydrology calibrations
  - MDE – 3 USGS gauges
  - CBP – 1 USGS gauge
- Nutrient calibrations
  - MDE – NPDES data, 3 DNR gauges
  - CBP – 1 DNR gauge

# Water Quality Model Refinements

- Water Quality –MDE using a finer grid
  - CBP –average cell size of 6miles X 2miles X 5 feet
  - MDE – model boundary is at the Patuxent and has an average cell size of 0.25miles X 0.12miles X 5 feet
- Model also receives finer resolution inputs from watershed model




CBP WQ Model Grid




MDE WQ Model Grid

# Tributary Strategy Coordination

# Tributary Strategies

- Nutrient reduction strategies for the 10 major watersheds in MD that drain to the Bay – they are also being completed in PA and VA
- The original versions of the strategies were completed in 1995 – Revised tributary strategies are due in the Summer or Fall of 2003
- Patapsco/Back River tributary team will guide the development of the tributary strategy that includes the Harbor
- Tributary Strategies provide a framework for meeting both TMDL and CBP goals

# Contact Information

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